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Effect Of Ammate On Unwanted Growth In Oak--Yellow-Poplar Stands In New Jersey

Stands of mixed oaks and yellow-poplar form the most valuable forest crop on many sites in central and northern New Jersey and in the Delaware Valley of southern New Jersey. However, these stands often contain shrubs and low-value hardwood trees that prevent satisfactory restocking of cut-over areas.

One method of controlling these unwanted shrubs and trees would be to treat them with a chemical such as ammate or 2,4,5-T. A small test of ammate was made on such trees and shrubs in a woodlot near Pennington, N. J., on June 5, 1952. On a 1/5-acre plot, 149 stems 6 feet tall to 8 inches in diameter (breast high) were treated. By species these were as follows:

Species	Stems (No.)	Size
Dogwood	40	7 feet tall to 5 inches diameter
Sugar maple	30	6 feet tall to 5 inches diameter
Red maple	12	1 to 6 inches diameter
Elm	20	7 feet tall to 8 inches diameter
Black cherry	15	1 to 6 inches diameter
Blackhaw	25	6 feet tall to 3 inches diameter
Ash	6	1 to 7 inches diameter
Spicebush	1	7 feet tall (tallest in a clump)

Small stems, mostly those less than 3 inches in diameter, were felled; and ammate crystals were placed in the V-shaped stumps. Large stems were treated by placing ammate in cups chopped near the ground. The rate of application was 1 tablespoonful of ammate crystals for stems 2 inches or less in diameter; for larger trees the number of tablespoonfuls was figured as the diameter (breast high) divided by 2. When standing stems were treated, a cup was cut for each tablespoonful.

When examined in September 1953, all the treated stems had been affected. All dogwoods, blackhaws, and black

cherries had been completely killed. All the stems of sugar maple had also died, but one had sprouted at the base. All but one elm stem had died without resprouting, and that one was severely damaged. More than 60 percent of the red maples had been killed, and the others were severely damaged. Treating the largest stem of spicebush had killed all old stems in the clump, and there were only two new weak sprouts. Ash was the most resistant species: on a third of the treated stems less than half of the crown had been killed.

Evidently this treatment would be a highly effective way of eliminating many undesirable stems from an oak-yellow-poplar stand, but it could be rather costly. On the average it took about 1 man-minute of time and 1 ounce of ammate for each stem treated in this small experiment; here the cost on a per-acre basis would be about $20.

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